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To the editor:

The recent outbreak of respiratory illness, first detected in Wuhan City, Hubei Province, China, is caused by a newly detected coronavirus named "2019-nCoV. In this article, the features of prevention, diagnosis, and treatment methods are explained with the literature [1-4].

Coronaviruses (CoV) are a family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). Coronaviruses are enveloped RNA viruses with a single chain and positive polarity. They do not contain RNA-dependent RNA polymerase enzymes because they have positive polarity, but they encode this enzyme in their genome. Subtypes of coronaviruses circulating in humans (HCoV-229E, HCoV-OC43, HCoV-NL63 and HKU1-CoV) are mostly viruses that cause common colds [1-4].

On 31 December 2019, the WHO China Country Office reported cases of pneumonia with unknown etiology detected in Wuhan City, Hubei Province of China. On 7 January 2020, the agent was identified as a new coronavirus type (2019-nCoV) that has not previously been detected in humans. Later, the name of 2019-nCoV disease was accepted as COVID-19.

The origin of COVID-19s is still under investigation. While wild animals illegally sold in the Huanan Seafood Wholesale Market are considered as the starting point of the outbreak, contamination from person to person and in health centers has been reported. The disease is thought to be transmitted through droplets.

Clinical pictures are newly defined. Since the number of cases in the publications is limited and the cases are different from each other, the mean incubation period may be different. According to scientific articles published so far, the incubation period accepted is 2–14 days. Common symptoms of infection are respiratory symptoms, fever, cough, and dyspnea. In more severe cases, pneumonia, severe acute respiratory infection, kidney failure, and even death may occur.

Nucleic acid amplification tests to be used in diagnosis and COVID-19 sequence information have been recently shared and molecular (PCR) tests have been designed. Sequence data is essential to understand the origin of the virus and how it spreads. Since the excretion and infectious time of the virus are unknown, for now, it is recommended to continue isolation measures during the patient's stay at the healthcare facility. Taking standard and droplet isolation measures has come to the fore in cases suspected of COVID-19. Individuals diagnosed with COVID-19 should be followed and treated in multidisciplinary hospitals that can provide mechanical ventilatory support. Treatment is supportive and aims at preventing secondary infections and complications since there is no specific antiviral treatment for COVID-19 and its pathogenesis is not fully known. In new reports, remdesivir, chloroquine phosphate is recommended in COVID-19 pneumonias. Supplemental oxygen therapy for patients with respiratory distress, hypoxemia, and shock, careful administration of fluid therapy in patients when there is no evidence of shock, and use of empirical antimicrobials (antibiotics, influenza neuraminidase inhibitors, antifungals) for possible pathogens that can cause SARI are recommended. Antimicrobials are recommended to be given to patients with sepsis within the first hour after patient evaluation. Systemic corticosteroids are not routinely recommended for the treatment of viral pneumonia or ARDS unless they are indicated for another reason. No vaccine for 2019-nCoV infection is available for now and studies continuous. [1-4].

Further details regarding the symptoms associated with 2019-nCoV can be found on the CDC website; The World Health Organization (WHO) also provides a document titled, "Clinical management of severe acute respiratory infection when novel coronavirus (2019-nCoV) infection is suspected." Timely information on the outbreak can be obtained from the WHO website. American Society of Anesthesia (ASA) Association has recommendations for anesthesia applications.

Recommendations

Personal protective equipment required for personnel who will be working at a distance of one meter to definite/possible COVID-19 cases:

1. Gloves
2. Aprons (non-sterile, preferably liquid impermeable, and long sleeves)
3. Medical mask (surgical mask)
4. N95 / FFP2 or N99 / FFP3 mask (Only during the process that causes droplet/aerosolization)*
5. Face Protection
6. Glasses**
7. Liquid soap
8. Alcohol-based hand antiseptic should be kept in sufficient quantity by inpatient healthcare institutions.

*Procedures causing droplet/aerosolization: aspiration, bronchoscopy and bronchoscopic procedures, intubation, respiratory tract sampling

**Reusable glasses are cleaned according to the manufacturer's recommendation. If there is no special recommendation made by the manufacturer, it should be disinfected with 70% ethyl alcohol and left to dry on its own in an appropriate environment. If the glasses are used again, the healthcare institution gives instructions on where the glasses will be removed, stored and disinfected.

To control the spread of the disease;

1. Possible and definite cases should be ensured to apply to separate areas in the hospital by being informed as much as possible beforehand.
2. During the examination, analysis, and care of these patients, people who are not required at the time should not be present in the environment as much as possible.
3. Priority should be given in analyses.
4. Staff who will provide care should be separated if possible.
5. Wastes from possible/definite COVID-19 cases must be disposed of in accordance with the relevant standards.
6. If the healthcare provider who is dealing with the patient with COVID-19 infection sees any signs or symptoms that suggest an acute disease within 14 days after contact with the sick person, he/she should definitely notify the relevant physicians and take necessary measures immediately.

ASA Recommendations:

Personal protection

Healthcare professionals entering the room should use airborne precautions. Wear an N95 respirator mask, which filters 95 % of particles > 0.3 microns in diameter. Airborne precautions also call for the use of eye protection (e.g., goggles or a face shield), gowns and gloves to prevent the transmission of droplets and smaller airborne particles that settle on environmental surfaces and mucous membranes. Hand hygiene (using an alcohol-based hand rub) is essential before and after donning gloves.

Procedural planning

If anesthesia or surgery is planned:

1. Postpone non-urgent surgical procedures until the patient is determined to be non-infectious or not infected.
2. When surgery cannot be postponed, schedule procedures when a minimum number of health care workers and other patients are present in the surgical suite.
3. Leave as much time as possible before subsequent patient care (for the removal of airborne infectious contamination).
4. When possible, perform minor procedures in the patient's room.

Transport

When transporting these patients for a procedure, don a fresh, clean gown and gloves to reduce contamination of environmental surfaces.

When using a bag-valve-mask device on these patients, a HEPA filter should be inserted between the breathing device and the patient.

Anesthesia Procedures

If general anesthesia is not required, the patient should continue to wear the surgical mask.

If general anesthesia is used:

1. Place a HEPA filter between the Y-piece of the breathing circuit and the patient's mask, endotracheal tube or laryngeal mask airway.
2. Alternatively, for pediatric patients or other patients in whom the additional dead space or weight of the filter may be problematic, the HEPA filter should be placed on the expiratory end of the corrugated breathing circuit before expired gas enters the anesthesia machine.
3. The gas sampling tubing should also be protected by a HEPA filter, and gases exiting the gas analyzer should be scavenged and not allowed to return to the room air.
4. If available, use a closed suction system during airway suctioning. Closed suctioning systems may only be available in the critical care setting.
5. After the patient has left the operating room, keep the room vacant until 99.9 % air turnover is achieved (e.g., for an operating room with a minimum of 15 air exchanges per hour, 28 minutes at a minimum are needed).
6. After the case, clean and disinfect high-touch surfaces on the anesthesia machine and anesthesia work area with an Environmental Protection Agency-approved hospital disinfectant.
7. Consider disposable covers (e.g., plastic sheets for surfaces, long ultrasound probe sheath covers) to reduce contamination of equipment and other environmental surfaces.

Point of care ultrasound

A long sheath cover of the ultrasound unit and cable should be used for both vascular access procedures and regional blocks (contact with non-intact skin) and transthoracic exams (intact skin) to minimize contamination of the equipment.

Non-essential parts of the ultrasound cart may best be covered with drapes to minimize droplet exposure of other attached ultrasound probes, the electrical cords and supply bins that are frequently handled or accessed.

References

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